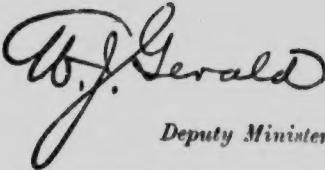




O.H.M.S.


W.J. Gerald
Deputy Minister

LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA.

BULLETIN No. 199

FRIAR'S BALSAM (COMPOUND TINCTURE OF BENZOIN.)

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FRIAR'S BALSAM, (COMPOUND TINCTURE OF BENZOIN.)

OTTAWA, March 8, 1910.

W. J. GERALD, Esq.,
Deputy Minister of Inland Revenue.

Sir,—I have the honour to submit herewith the results of analysis of 70 samples of Friar's Balsam (Tinctura Benzoini Composita), collected throughout Canada in September and October of last year.

This tincture is very largely used as a remedy in bronchitis and is official in most pharmacopeias.

The composition of the Compound Tincture of Benzoin is nearly identical for the British and the United States Pharmacopeias, as follows:—

TO MAKE 1000 PARTS.

Materials from which made.	B. P.	U. S. P.
Benzoin.....	100	100
Aloes	18·2	20
Storax.....	75	80
Balsam of Tolu.....	25	40
Alcohol	q. s.	q. s.
	1000	1000

The tests prescribed by the British Pharmacopeia are:—

1. Specific gravity, about 0·900.
2. Total solids, 17 to 18 per cent,
3. Absolute alcohol, about 75 p.c.

Tinctures made in the laboratory according to B. P. directions gave results as follows:—

	Days.	Days.
Time of maceration	2	3½
Specific gravity	0·8981	0·8924
Total dry solids	14·6	15·4
Alcohol (vol. p. c.)	74·32	74·96

The fact that different varieties of benzoin have different solubilities may to some extent account for the varying solids found in the tinctures herein reported. It will be noted that even the tinctures made in this laboratory did not yield the amount of dry solids required (17-18 p.c.); and 17 p.c. is only reached by 7 samples out of 70 examined. Solids vary from 8·6 to 19·46 per cent., five (5) samples containing less than 10 per cent.

The alcohol used is generally of proper strength; and is genuine in 69 samples. One sample (No. 1255) is made with methyl alcohol, and is therefore adulterated.

This report shows Friar's Balsam as dispensed in Canada, to be generally somewhat below the pharmacopelial standard in dissolved solids.

I beg to recommend the publication of this report as Bulletin No. 199.

I have the honour to be, Sir,
Your obedient servant,

A. MCGILL,
Chief Analyst.

BULLETIN No. 199—FRIARS BALSAM (COMPOUND TINCTURE OF BENZOIN; TINCTURA BENZOINI COMPOSITA).

Date of Collection.	No. of Sample.	Nature of Sample.	Name and Address of Vendor.	Cost.	RESULTS OF ANALYSIS.										No. of Sample		
					Examination for Methyl Alcohol.					Examination for Ethyl Alcohol.							
					Alcohol	Density.	Weight by per 1000 grms.	Total Solids per 1000 grms.	Alcohol by weight.	Alcohol	Density.	Weight by per 1000 grms.	Total Solids per 1000 grms.	Alcohol by weight.			
DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.																	
1909.																	
Oct.	8	Friars Balsam.	41846 G. C. McDougall, 6 oz., Kentville, N.S.	90	Vendor	.....	0.8707	0.8492	79.64	85.19	149.27	11.77	0.9616	27.50	64.6	64.4 - 0.2	41846
"	8	"	41847 H. E. Wilson, Wind.-so., N.S.	60	"	.....	0.8718	0.8511	78.78	84.47	148.03	13.61	0.9066	28.81	66.8	66.5 - 0.3	41847
"	11	"	41848 A. J. Crease, Am.-6 " so., N.S.	60	"	.....	0.8880	0.8701	70.89	77.60	136.00	17.61	0.9614	27.64	64.8	64.6 - 0.2	41848
"	11	"	41849 R. C. Fuller & Co., 6 " so., Amherst, N.S.	50	Vendors	.....	0.8739	0.8531	78.06	83.91	147.05	13.34	0.9614	23.82	74.1	73.8 - 0.3	41849
"	12	"	41850 Crowe Bros., Truro, 6 " so., N. S.	50	"	.....	0.8860	0.8649	73.68	77.61	139.52	14.40	0.9651	25.67	60.4	60.1 - 0.3	41850
DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.																	
Sept.	9	Friars Balsam.	39583 The Nat. Drug and 6 oz., St. John, N.B.	60	Vendors	.....	0.8784	0.8647	73.08	79.61	139.52	12.81	0.9707	20.75	51.9	51.9 - 0.0	39583
"	15	"	39584 P. J. Donohoe, St. 6 " so., John, N.B.	60	Vendor	.....	0.8830	0.8701	70.90	77.60	136.00	14.86	0.9745	17.67	45.8	45.9 + 0.1	39584
"	21	"	39585 R. T. Mack, Frederic-ton, N.B.	60	"	.....	0.8790	0.8536	77.04	83.04	145.52	15.29	0.9663	24.15	58.1	56.2 - 0.2	39585
Oct.	6	"	39586 Fairweather Bros., 6 " so., Estate, Moncton, N.B.	60	Vendors	.....	0.8913	0.8563	75.45	81.68	143.14	16.24	0.9617	27.43	61.4	64.2 - 0.2	39586
"	11	"	39587 A. W. G. McDonald, 6 " so., Campbellton, N.B.	40	Davis Lawrence Co., Montreal.	0.8879	0.8701	70.80	77.60	136.00	10.65	0.9632	25.00	60.1	60.2 + 0.1	39587	

DISTRICT OF QUEBEC—E. BELAND, INSPECTOR.

Sept. 13	Friars Balsam.	36652	Dr. J. L. Hamelin, 6 oz..	60	Lyman Sons, Mont-real.	0.9050	0.8906	66.43	73.60	129.15	16.74	0.9641	25.79	61.5	61.5	0.0	36652
" 13	"	36653	Louisville.	60	Nat. Drug Co.,	0.8818	0.8701	70.80	77.60	126.00	11.37	0.9706	20.83	52.0	51.6	-0.4	36653
" 14	"	36653	L. A. Plante, Louiseville.	60	Montreal.	0.8819	0.8683	71.54	78.25	157.14	11.57	0.9942	17.92	46.3	46.6	+0.3	36654
" 14	"	36654	J. A. Peltier, Trois Rivieres.	60	Montreal.	0.8651	0.8445	81.56	86.77	152.06	10.28	0.9705	20.92	52.3	52.6	+0.3	36655
" 14	"	36655	R. W. William, Trois Riviere.	45	Montreal.	0.8816	0.8730	67.13	74.33	130.26	16.70	0.9645	25.50	61.0	61.3	+0.3	36656
" 14	"	36656	Pharmacie Normand, Trois Riviere.	60	Montreal.	0.8816	0.8730	67.13	74.33	130.26	16.70	0.9645	25.50	61.0	61.3	+0.3	36656

DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

Sept. 15	Friars Balsam.	125	P. A. Berard, Drummondville.	6 oz..	75	Unknown....	0.9620	0.8822	65.75	73.07	128.06	19.02	0.9738	18.23	47.0	47.4	+0.4	1251
" 16	"	1252	J. B. Leduc, Marieville.	6 oz..	70	Lyman Knox Co., Montreal.	0.8930	0.8806	66.43	73.60	129.15	14.61	0.9397	29.75	66.8	66.7	-0.1	1252
" 17	"	1253	Dr. Guy, St. Jean	6 oz..	60	Vendor.....	0.8809	0.8666	72.26	78.80	138.25	17.97	0.9706	29.83	52.4	52.6	+0.2	1253
" 22	"	1254	Dr. Lambly, Cookshire.	6 oz..	75	Lyman, L. t. d., Montreal.	0.8910	0.8739	69.33	76.31	135.72	18.29	0.9606	29.25	65.9	65.5	-0.4	1254
" 23	"	1255	Magog Pharmacy, Magog.	6 oz..	50	Unknown....	0.8867	0.884	63.92	68.64	115.34	12.56	0.9602	29.07	67.3	49.5	-35.5	*1255

DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.

Sept. 9	Friars Balsam.	40306	A. Monat, 20 St. Cath.	6 oz..	40	Erine W., Montreal.	0.9000	0.8806	66.43	73.60	129.15	15.53	0.9754	16.92	41.3	44.4	+0.1	40306
" 9	"	40307	J. T. Lyons Co., suc.	6 oz..	50	577 St. Catherine W., Montreal.	0.8730	0.8611	74.64	80.96	141.89	12.03	0.9728	19.00	48.5	48.6	+0.1	40307
" 9	"	40308	A. B. Scarf, 703 St. Catherine W., Montreal.	6 oz..	65	Lyman Knox Co., 0.9060	0.8823	65.71	73.03	127.96	15.23	0.9757	16.68	43.9	44.1	+0.2	40308	
" 9	"	40309	C. T. Milne, 721 St. Catherine W., Montreal.	6 oz..	50	...	0.9015	0.8823	65.71	73.03	127.96	15.21	0.9751	17.17	44.8	45.0	+0.2	40309
" 9	"	40310	O. Brault, 248 St. Antoine St., Montreal.	6 oz..	50	...	0.8868	0.8701	70.80	77.60	136.06	14.43	0.9822	27.07	63.8	63.8	0.0	40310

* Contains wood Alcohol—Adulterated.

BULLETIN No. 199—FRIARS BALSAW (COMPOUND TINCTURE OF BENZOIN; TINCTURA BENZOINI COMPOSITA).

Date of Collection.	No. of Sample.	Nature of Sample.	Cast.	Name and Address of Vendor.	Quantity.	Grosses.	RESULTS OF ANALYSIS										
							Examination for Methyl Alcohol.					Examination for Benzyl Alcohol.					
							Alcohol.	Alcohol.	Alcohol.	Alcohol.	Alcohol.	Total Solids, grams	Proof Spirit,	Proof Spirit,	Proof Spirit,	Weight,	
DISTRICT OF OTTAWA—J. A. RICKY, INSPECTOR.																	
Sept. 22	Friars Balsam.	42831	E. H. Elvidge, Vank. 6 oz., Leek Hill.	70	Lymans, Ltd., Montreal.	83.38	88.22	154.60	9.40	0.9622	27.07	63.8	64.0	+ 0.2	42831		
" 25	"	42832	W. S. Robertson, 6 oz., Perth.	60	Vendor.....	0.8732	0.8836	77.88	83.74	146.75	13.87	0.9634	29.00	68.2	67.8	- 0.4	42832
" 29	"	42833	J. in Mc Leister, 6 oz., Alexandria.	60	Lymans, Ltd., Montreal.	0.8911	0.8833	75.45	81.68	143.14	14.05	0.9631	26.47	62.7	62.4	- 0.3	42833
Oct. 5	"	42834	R. M. Arbutnok, 6 oz., Ottawa.	75	Nat. Drug Co., Ottawa.	0.8941	0.8701	70.80	77.60	136.60	13.78	0.9730	18.45	48.2	48.2	0.0	42834
" 5	"	42835	Beattie & Argue, 6 oz., Ottawa.	75	Vendors.....	0.8772	0.8836	77.04	83.04	145.52	15.34	0.9606	26.99	65.5	65.1	- 0.4	42835
DISTRICT OF KINGSTON—JAS. HOGAN, INSPECTOR.																	
Sept. 7	Friars Balsam.	42746	National Drug Co., 6 oz., Kingston.	50	Vendors.....	0.8735	0.8720	70.04	76.94	134.84	14.47	0.9601	21.31	58.8	58.6	- 0.2	42746
" 8	"	42747	D. M. Waters, Belle-ville.	50	Vendor.....	0.8830	0.8611	74.64	80.36	141.80	15.16	0.9596	29.69	66.3	66.4	+ 0.1	42747
" 8	"	42748	O. G. Johnson, Cobourg.	50	"	0.8772	0.8836	77.88	83.74	146.75	14.24	0.9604	28.94	66.6	66.8	+ 0.2	42748
" 8	"	42749	A. J. Gould, Cobourg 6 oz.,	50	"	0.8643	0.8422	81.28	86.54	151.65	11.25	0.9355	31.31	70.8	70.5	- 0.3	42749
" 9	"	42750	E. S. Payne, Peterboro.	50	"	0.8741	0.8657	76.29	82.40	144.41	11.70	0.9750	17.25	45.0	44.8	- 0.2	42751

DISTRICT OF TORONTO—H. J. DAGER, INSPECTOR.

Sept. 23	Friars Balsam,	41292	Hawkins Ltd., 6 oz.	30		0 8703	0 8422	79 61	85 19 149 27	13 05 0 9617	27 43	64 4	64 2	0 2	41292
" 23	" "	41288	Littlewoods Pharm., 6 oz.	30	Burroughs, Wellcome & Co., London, Eng.	0 8818	0 8773	67 83	74 97 131 38	16 26 0 9774	15 33	41 2	41 3	+ 0 1	41293
" 24	" "	41294	W. H. Cummings, 6 oz.	25	The Dan. Drug Co., Ltd., Hamilton.	0 8901	0 8836	77 91	83 04 145 32	15 81 0 9626	26 80	63 3	63 1	- 0 2	41294
" 25	" "	41295	G. Tambyler, Toronto.	30	Lynan Bros. Co., 0 8907	0 8766	72 36	78 89 138 25	15 30 0 9628	26 67	63 1	62 8	- 0 3	41295	
" 27	" "	41296	W. H. Worden, Toronto.	30	The Nat. Drug & Chem. Co., Ltd., Toronto.	0 8806	0 8630	73 79	80 22 140 59	13 79 0 9664	30 78	70 0	69 9	- 0 1	41296

DISTRICT OF LONDON—T. KIDD, INSPECTOR.

Sept. 13	Friars Balsam,	30818	W. A. McIntyre, St. Mary's, 6 oz..	60	Vendor.....	0 8751	0 8633	73 45	81 68 143 14	12 98 0 9709	29 58	51 6	51 7	+ 0 1	30818
" 14	" "	30826	H. M. Myers, Stratford.	60	"	0 8941	0 8720	70 46	76 94 134 84	14 14 0 9728	19 60	48 5	48 2	- 0 3	30826
" 21	" "	30830	Dunlop, Goderich.	60	J. Winer & Co., 0 9103	0 8841	64 56	72 34 126 78	16 24 0 9745	17 67	45 8	45 4	- 0 4	30830	
" 22	" "	30861	Walter McKibbon, 6 oz.	60	Nat. Drug & Chem. Co., Hamilton.	0 9042	0 8805	65 46	73 73 129 22	16 32 0 9736	18 36	47 3	47 3	0 0	30861
" 27	" "	30864	A. Stewart, Guelph.	60	Vendor.....	0 8816	0 8536	77 94	83 91 145 32	16 19 0 9623	27 39	63 7	63 6	- 0 1	30864

DISTRICT OF WINDSOR—JNO. TALBOT, INSPECTOR.

Oct. 4	Friars Balsam,	42569	C. H. Gunn & Co., Chatham.	50	Vendors.....	0 9803	0 8756	68 54	75 50 132 49	19 46 0 9737	18 30	47 1	46 5	0 3	42569
" 5	" "	42510	A. J. McCall & Co., Chatham.	60	"	0 8767	0 8611	74 64	80 36 141 89	10 32 0 9733	18 63	47 7	47 5	- 0 2	42510
" 7	" "	42522	H. O. P. Marg., Windsor.	60	Vendor.....	0 8628	0 8683	71 54	78 25 137 14	16 44 0 9744	17 75	46 6	46 2	+ 0 2	42522
" 8	" "	42530	L. A. Wilcoxby, Leamington.	75	"	0 8750	0 8536	77 86	83 74 146 75	14 23 0 9661	22 77	55 7	55 9	+ 0 2	42530
" 8	" "	42541	U. M. Milton, Ridge-town.	60	"	0 8614	0 8394	83 92	86 64 156 31	8 60 0 9660	26 62	66 6	66 7	+ 0 1	42541

BULLETIN No. 199—FRIARS BALSAW (COMPOUND TINCTURE OF BENZOIN; TINCTURA BENZOINI COMPOSITA).

Date of Collection.	No. of Sample.	Nature of Sample.	Name and Address of Vendor.	Cost.	RESULTS OF ANALYSIS.										No. of Sample.		
					Alcohol.					Examination for Methyl Alcohol.							
					Density.	Weight.	Volume.	Total Solid Extract per 100 cc. Grams	Proof Spirit.	p.e.	p.a.	p.e.	p.a.	Refraction.			
1900.																	
DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.																	
Sept. 14	Friars Balsam.	39796	Gillespie & Campbell, 6 oz..	50	Unknown.....	0.8794	0.8774	76.29	82.40	144.41	12.35	11.41	22.69	35.6	36.5 - 0.1	39796	
"	"	39797	Colclough & C. o., 6 oz..	30	" ..	0.8804	0.8683	71.54	78.25	137.14	15.12	12.0	9720	19.67	49.8	50.3 + 0.5	39797
"	"	39798	D. W. Bradshaw, 6 oz..	60	Vendor.....	0.8875	0.8630	73.79	80.22	140.56	14.63	0.921	27.14	63.9	63.6 - 0.3	39798	
"	"	39799	G. o. McCullough, 6 oz..	65	Unknown.....	0.8801	0.8611	74.64	80.96	141.89	16.99	0.9700	21.31	52.9	52.7 - 0.2	39799	
"	"	39800	R. T. Hoskin, Wm 6 oz..	60	Vendor.....	0.8757	0.8536	77.88	83.74	146.75	13.24	0.9707	23.62	57.4	57.6 + 0.2	39800	
DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.																	
Sept. 10	Friars Balsam.	35632	J. J. Johnston, Lethbridge.	75	H. K. Wambole & Co., Perth.	0.8877	0.8574	76.29	82.40	144.41	15.38	0.9694	28.94	67.1	66.7 - 0.4	35632	
"	"	35633	E. M. Cawler, Med. 6 oz..	75	Park Davis Co., Walkerville.	0.8871	0.8611	74.64	80.96	141.89	15.75	0.9623	27.60	63.7	63.4 - 0.3	35633	
"	"	35634	C. S. Pringle, Med. 6 oz..	75	" Hat.	0.8766	0.8650	72.96	79.50	139.32	10.98	0.9733	18.62	47.7	47.8 + 0.1	35634	
"	"	35635	Curry & Cope, Cal. 6 oz..	75	" Part.	0.8785	0.8611	74.64	80.96	141.89	13.62	0.9738	16.62	43.7	44.0 + 0.3	35635	
"	"	35636	W. McLean, Calgary 6 oz..	75	"	0.8801	0.8701	70.80	77.60	136.00	15.05	0.9728	19.60	48.5	48.4 - 0.1	35636	

" 14 " . . Gary
23636 W. McLean, Calgary 6 " . 75 " .. 0.8801 0.8701 70.30 77.60 136.00 15.05 0.9728 19.00 48.5 48.4 - 0.1 35636

DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.

Sept. 21	Friars Balsam.	37758	Woodwards Dept. 6 oz..	75	Vendor,	0.8770 0.8514	78.76	94.47 118.03	13.63 0.9015	27.57	64.7	64.4 - 0.3	37758	
" 21 "	37759 E. S. Knowton, Van- cover.	75	Henderson Bros., 0.8796 0.8536	77.88	83.74 146.75	15.68 0.9605	24.00	58.2	58.0 - 0.2	37759				
" 21 "	37760 Central Drug Store, 6 oz..	75	Nat. Drug & Chem. Co., 0.8798 0.8630	73.79	80.22 140.59	14.70 0.9723	19.42	49.4	49.2 - 0.2	37760				
" 21 "	37761 Woods Pharmacy, 6 oz..	75	Henderson Bros., 0.9024 0.8766	68.54	75.60 132.49	18.48 0.9796	13.46	37.7	37.9 + 0.2	37761				
" 21 "	37762 McDuffie Bros., Van- cover.	75	Vendors,	0.8819 0.8668	72.17	78.81 138.11	15.00 0.9766	16.00	42.5	42.7 + 0.2	37762			

DISTRICT OF VICTORIA—D. OSULLIVAN, INSPECTOR.

Oct. 18	Friars Balsam.	41579	Wm. Jackson & Co., 6 oz..	60	Lyman's Ltd., Mon- treal.	0.8817 0.8701	70.80	77.60 136.00	11.42 0.9787	14.80	39.0	38.9 - 0.1	41579		
" 18 "	41580 Hall & Co., Victoria.	6 oz..	75	Vendors,	0.8539 0.8501	70.80	77.60 136.00	18.48 0.9746	17.58	45.7	46.2 + 0.5	41580			
" 18 "	41581 W. S. Terry, Vic- toria.	6 oz..	75	Parke Davis Co., 0.8893 0.8857	64.26	71.70 125.65	14.08 0.9732	18.69	47.9	48.0 + 0.1	41581				
" 18 "	41582 F. J. Williams, Vic- toria.	6 oz..	75	Walkerville,	0.8673 0.8574	76.29	82.40 144.41	9.65 0.9716	20.00	50.5	50.4 - 0.1	41582			
" 18 "	41583 Geo. A. Fraser, Vic- toria.	6 oz..	75	Henderson Bros., 0.8629 0.8473	80.42	85.84 160.43	9.70 0.9723	19.42	49.3	49.2 - 0.1	41583				

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